



NORTH CAROLINA Department of Transportation



2019 RE Workshop - Structure Topics


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March 22, 2019

Structure Acceptance & Notification

- 2017 Resident Engineer Workshop
- December 8, 2017 Memo
- Structure Bulletins
 - Volume 2, Issues (8, 9, 11)
- 2019 Resident Engineer Workshop




 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION

ROY COOPER, JR.
GOVERNOR
JAMES H. TROGDON, III
SECRETARY

MEMO TO: Division Engineers
FROM: M. L. Sylvester, PE
State Construction Engineer
DATE: December 8, 2017
SUBJECT: Project Acceptance Procedures - SharePoint Forms

The Construction Unit has recently implemented new electronic acceptance and notification forms for bridge deck and rail acceptance, partial acceptance, and final acceptance of construction projects in accordance with Article 105-17 of the Standard Specifications. The new forms and responsibility for completing the applicable forms was covered last year in the Resident Engineer Workshops. The Construction Manual is currently being updated to address the revised procedures. This memo provides additional guidance to the Divisions and their responsibilities in this revised process. Three new forms have been created on the SharePoint project team sites for accepting all or portions of work, and for notification purposes.

- **Engineer Acceptance Report**
 - To be used for Bridge Deck & Rail acceptance, Partial Acceptance, Final Acceptance or a combination thereof
- **Advance Notice of New Structure Completion**
 - Notifies Structures Management Unit (SMU) of an upcoming structure completion so that it can be inspected by SMU within 30 days of opening to traffic per FHWA requirements
- **Notice of Vertical Clearance Change**
 - Notifies SMU and Oversize/Overweight Permits of changes in vertical clearance of all overhead obstructions

The applicable forms can be found on each project team site and should be completed by the responsible party as outlined below. Upon completion of the form, the form should be changed from "Pending" to "Approved" so that personnel with read only access can view the form. The sender should copy a link to the form and send an email to the required personnel listed on SharePoint for each form. Below is a chart outlining the responsibility of the Division or Construction Unit staff for completing the applicable forms:

<small>Mailing Address: NC DEPARTMENT OF TRANSPORTATION CONSTRUCTION UNIT 1143 MAIL SERVICE CENTER RALEIGH, NC 27601-1143</small>	<small>Telephone: 919-737-2322 Fax: 919-737-6443 Customer Service: 1-877-888-6868 Website: www.ncdot.gov</small>	<small>Construction TRANSPORTATION BUILDINGS 1 SOUTH VILLAGEWORTH STREET RALEIGH, NC 27601</small>
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GOOD IS NOT ENOUGH
IF BETTER IS
POSSIBLE

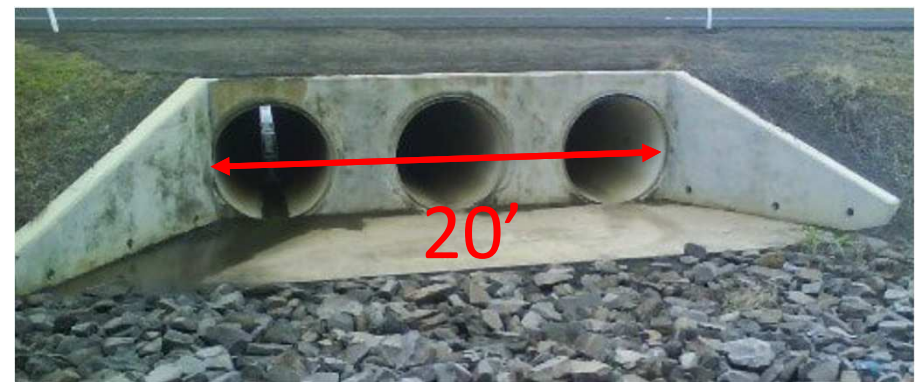
Structure Acceptance & Notification



Advance Notice of New Structure Completion

- 30 day advance notice (+/-)
- Allows SMU to schedule inspection
- Bridges
Culverts
Overhead Signs
- Bridge Rehab
Pipe Grouping 20'+ Wide
Pipes > 54"

Structure Acceptance & Notification



Advance Notice of New Structure Completion

- 30 day advance notice (+/-)
- Allows SMU to schedule inspection
- Bridges Bridge Rehab
- Culverts Pipe Grouping 20'+ Wide
- Overhead Signs Pipes > 54"

Notice of Vertical Clearance Change

- Notifies Oversize/Overweight Permitting of change
- Increase or decrease
- Bridge, Overhead Sign, Resurfacing

Advance Notice of New Structure Completion

- 30 day advance notice (+/-)
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Engineer Acceptance Report

- Deck & Rail Acceptance
- Partial Acceptance (ICT 1)
- Final Acceptance (All work)

Structure Acceptance & Notification

The screenshot shows the ncdot.gov Connect portal. The browser address bar displays <https://connect.ncdot.gov/site/construction/Temp>. The page title is "Home - Template Pilot Site". The left sidebar contains a "Project Site" menu with links to "Submittal Dropoff", "Weekly Project Report", "Engineer Site Review - RESTRICTED", "Engineer Acceptance Report", "Report of Materials Received", and "Inspector's Daily Report - RESTRICTED". Below this is a "Recent" section with "Submittal Tracking". A red arrow points from the "Structures" link in the sidebar to the "Find a List or Library" section. This section contains a search bar and a list of links: "Erosion Control/Permits", "Estimate Documentation", "Materials", "Other", "Plans/Contracts", "Reports", "Signals/Lighting", "Structures" (highlighted with a red arrow), "Submittals", and "Utilities". A red box highlights the following links: "Advance Notice of New Structure Completion", "Engineer Acceptance Report", "Notice of Vertical Clearance Change", and "Pile Data Form". The right sidebar contains the "Inspector's Daily" section with a "Current View" dropdown and a search bar. Below this is a table with "Contract No." and "Date" columns. The table contains the following data:

Contract No.	Date
...	1/25/2017
...	1/3/2017
123.456.789	1/3/2017
Test	12/29/2016
C123456	9/15/2016
Test2	5/31/2016
...	6/1/2016

At the bottom of the page, there is a search bar and a "Search" button. The Windows taskbar at the bottom shows the time as 6:20 PM on 2/9/2017.

Responsibility Chart

	Central Contract	Division Contract	Time Frame
Advance Notice of New Structure Completion	Resident Engineer	Resident Engineer	30 Days Before Opening
Notice of Vertical Clearance Change	Resident Engineer	Resident Engineer	Immediately
Engineer Acceptance Report			
Deck & Rail Acceptance	Area Construction Engineer	Resident Engineer	72 Hours After Opening
Partial Acceptance	Area Construction Engineer	Resident Engineer	
Final Acceptance	Area Construction Engineer	Resident Engineer	
Final/Partial Acceptance Letter to Contractor	Central Construction Unit	Division Construction Engineer	1 Week

Notifications - As Builts

- Upload As-Builts into Sharepoint
- Aluminum Arch Culverts & Precast Culverts
 - Attach Plans & Shop Drawings when sending notice

LAP Project Notices

- No Sharepoint Team Sites
- Division Administrator Send Notices by Email
- Send Electronic Plans to SMU
- Local Government Agency (LGC) will notify Contractor

Grouting Cored Slabs/Box Beams



Sampling

Not



Acceptance

5000 PSI

14 Days (2018 spec)

Early Breaks

5000 PSI

3 Days, Etc. (used for placing loads on the bridge)

DO NOT USE ACCEPTANCE SAMPLES FOR EARLY BREAKS

Grouting

	2012 Specifications	2018 Specifications
Written Requirements for Grouting Cored Slabs	Grout for Structures SP	Grout for Structures SP – References Article 1003-4 Type 3 Grout
Approved Product List	No distinction between grout types	Grout Types Designated (1-5)
Strength Requirement	5000 psi in 3 days Qualification and Construction Loading	5000 psi in 3 days Qualification and Construction Loading
Acceptance Testing	5000 psi in 28 days	5000 psi in 14 days

Low Breaks

- Too much water



Low Breaks

- Too much water
- Cold Water




Article 1003-5 Temperature Requirements

When using an approved prepackaged grout, **follow the manufacturer's instructions** for grout and air temperature at the time of placement. Otherwise, the grout temperature at the time of placement shall be not less than **50°F** nor more than **90°F**.

Adding warm water may help but not as much as you think if the grout bags have been exposed to very cold weather.

Low Breaks

- Too much water
- Cold Water
- Water Source



Article 1024-4 Water

Water used in the production of concrete or grout shall be from all public water systems which are for drinking and must meet the criteria in Table 1024-2

Test all water from wells and public water supplies from out of state locations and in the following counties:

Beaufort	Currituck	Pasquotank
Bertie	Dare	Pender
Brunswick	Gates	Perquimans
Camden	Hyde	Tyrell
Carteret	New Hanover	Washington
Chowan	Onslow	
Craven	Pamlico	

Low Breaks

- Too much water
- Cold Water
- Water Source
- Improper Grout Storage



Low Breaks

- Too much water
- Cold Water
- Water Source
- Improper Grout Storage
- Improper Grout Mixing



Low Breaks

- Too much water
- Cold Water
- Water Source
- Improper Grout Storage
- Improper Grout Mixing
- Improper Sampling



Bridge Deck Overlays Striping



Structure Bulletins

- Construction Resources
- Share with Inspectors
– DOT & CEI
- Continue to Submit Ideas to Aaron Earwood or Cameron Cochran

